10

20

25

## THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:-

- 1. A sunscreen composition, including one or more insect repellents, one or more organic UV sunscreening agents and one or more inorganic sunscreening agents, characterised in that the composition includes 3-9% by weight in total of at least two emulsifiers, based on the total weight of the composition.
- 2. A sunscreen composition as in claim 1 including two or more emulsifiers selected from the group consisting of fatty acid ethoxylates, fatty alcohol ethoxylates, fatty alcohol and blends of fatty alcohol ethoxylates with alkyl phenol ethoxylates.
- 3. A sunscreen composition as in claim 1, including two or more emulsifiers selected from the group consisting of glycerol monostearate, ethoxy stearyl alcohol, C<sub>16</sub>.

  18 fatty alcohols and blends of cetostearyl alcohol and PEG stearate.
  - 4. A sunscreen composition as in any one of claims 1 to 3 wherein the inorganic compound is zinc oxide or titanium dioxide, preferably micronised zinc oxide or micronised titanium dioxide, most preferably micronised titanium dioxide.
- 5. A sunscreen composition as in any one of claims 1 to 3 including N,N-diethyl-m-toluamide and/or dipropyl pyridine-2,5-dicarboxylate as the insect repellent.
  - 6. A sunscreen composition as in claim 1 including by weight, based on the total weight of the composition,
  - (a) 1-5%, preferably 2-4%, more preferably 3% inorganic compound as a sunscreening agent,
    - (b) 4-20%, preferably 4-15%, more preferably 5-10% insect repellent and
    - (c) 3-10% each of one or more organic UV sunscreening agents.
  - 7. A sunscreen composition as in claim 6 wherein the inorganic compound is zinc oxide or titanium dioxide, preferably micronised zinc oxide or micronised titanium dioxide, most preferably micronised titanium dioxide.
  - 8. A sunscreen composition as in claim 6 wherein the insect repellent is N,N-diethyl-m-toluamide and/ or dipropyl pyridine-2,5-dicarboxylate.
  - 9. A sunscreen composition as in any one of claims 1 to 8 further including
  - (d) 7% in total of emulsifiers
- 30 (e) up to 5%, preferably 1-5%, more preferably 3% film former
  - (f) up to 0.25%, preferably 0.05-0.25%, more preferably 0.15% thickener
  - (g) up to 0.3%, preferably 0.1-0.3%, more preferably 0.15% neutraliser
  - (h) up to 0.3%, preferably 0.1-0.3%, more preferably 0.2% chelating agent
  - (i) up to 2.5% of at least one of preservative, perfume and moisturiser.

25

- 10. The use of 3-9% by weight in total of at least two emulsifiers in a sunscreen composition, based on the total weight of the composition, which includes one or more organic UV sunscreening agents, one or more inorganic sunscreening agents and one or more insect repellents.
- 11. A combined insect repellent and sunscreen composition including one or more insect repellents, one or more organic UV sunscreening agents and one or more inorganic sunscreening agents, characterised in that the composition includes 3-9% by weight in total of at least two emulsifiers, based on the total weight of the composition.
- 10 12. A method of manufacturing a sunscreen composition including one or more insect repellents, one or more organic UV sunscreening agents and one or more inorganic sunscreening agents, the composition being in the form of an emulsion having an oil phase and a water phase characterised in that the water phase and oil phase are prepared and combined to form an emulsion prior to addition of at least one inorganic compound which is used as a sunscreening agent.
  - 13. A method of manufacturing a sunscreen composition including the steps of:
  - (a) preparing a water phase including water and thickener;
  - (b) preparing an oil phase including at least two emulsifiers, at least one insect repellent and at least one organic UV sunscreening agent;
- 20 (c) combining said water phase and oil phase to form an emulsion; and
  - (d) adding at least one inorganic compound which is used as a sunscreening agent.
  - 14. A method of manufacturing a sunscreen composition in the form of an oil-inwater emulsion including the steps of:
  - (a) preparing a water phase by combining water and thickener while stirring and heating,
  - (b) preparing an oil phase by combining at least two emulsifiers, at least one insect repellent, optionally a film former and at least one organic UV sunscreening agent while stirring and heating,
  - (c) adding the oil phase to the water phase while stirring,
- 30 (d) optionally adding a chelating agent and a neutraliser to the combined water and oil phases; and
  - (e) adding at least one inorganic compound which is used as a sunscreening agent to the combined water and oil phases while stirring.

- 15. The method of claim 14 wherein the water phase of step (a) and the oil phase of step (b) are heated to a temperature in the range of 75-80oC respectively before combining in step (c).
- 16. The method of any one of claims 13 to 15 wherein at least two emulsifiers are selected from the group consisting of fatty acid ethoxylates, fatty alcohol ethoxylates, fatty alcohol and blends of fatty alcohol ethoxylates with alkyl phenol ethoxylates.
  - 17. The method of any one of claims 13 to 15 wherein at least two emulsifiers are selected from the group consisting of glycerol monostearate, ethoxy stearyl alcohol,  $C_{16-18}$  fatty alcohols and blends of cetostearyl alcohol and PEG stearate.
- 10 18. The method of any one of claims 12 to 15 wherein the inorganic compound is zinc oxide or titanium dioxide, preferably micronised zinc oxide or micronised titanium dioxide, most preferably micronised titanium dioxide.
  - 19. The method of any one of claims 12 to 15 wherein the insect repellent is N,N-diethyl-m-toluamide, dipropylpyridine-2,5-dicarboxylate or a mixture thereof.
- 15 20. The method of any one of claims 12 to 15 wherein the organic UV sunscreening agent is oxybenzone, octylmethoxycinnamate or a mixture thereof.
  - 21. A sunscreen composition manufactured according to the method of any one of claims 12 to 20.
  - 22. A sunscreen composition, including at least two emulsifiers as hereinbefore described with reference to the examples.
  - 23. A method of manufacturing a sunscreen composition as hereinbefore described with reference to the examples.

25

20

30